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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Dilts
Serial No. 08/108,877
Filed: October 23, 1993
Title: **OBJECT-ORIENTED TELEPHONY SYSTEM**
Examiner: H. Hong
Art Unit: 2601
Taligent# P-067
Date: June 20, 1995

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that the following Amendment is being transmitted via fax addressed to **Box AF**, Commissioner of Patents and Trademarks, Washington, D.C. 20231 on June 20, 1995.


[sender]

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Commissioner of Patents and Trademarks
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Greetings:

RESPONSE UNDER 37 C.F.R. §1.116

This is a response to the Office Action mailed April 12, 1995. On the basis of the detailed discussion below, Applicant respectfully requests that the claims be reconsidered and again examined in accordance with the provisions of 37 C.F.R. §1.116.

The Examiner objected to the drawings stating that “the elements 606 in Fig. 5 required full word labels.” Applicant believes the Examiner intended to object to Fig. 6 of the drawings rather than Fig. 5 since element 606 appears in Fig. 6 and not Fig. 5. Applicant has enclosed herewith a copy of Fig. 6 with proposed changes marked thereon in **bold**. Approval of these changes is respectfully requested.

The Examiner rejected claims 1-3, 5-16 and 18-26 under 35 U.S.C. §103 as being unpatentable over U.S. Patent 5,125,091 (Staas) in view of an article entitled “BOOST ‘93: dishing out healthy portions of reality” by Kathleen O. Rankin (Rankin).

In connection with the latter rejection, the Examiner argued that the Staas patent clearly taught how an object-oriented system could control real-time processing. However, the Examiner admitted that Staas differed from the claimed invention in that Staas did not teach the object-oriented control of real-time processing related to telephony processes. However, the Examiner noted that telephony processes, such as call connection, monitoring call progress and activating call features were well-known in the telephony art. The Examiner cited the Rankin article as teaching the motivation for combining telephony processes with object-oriented operating systems. Therefore, the Examiner concluded that it would have been clearly obvious, even to one of ordinary skill in the art at the time of the invention, to incorporate telephony functions, which already take place in a stored program controlled environment, into an object-oriented environment as motivated by Rankin.

In response, Applicant has carefully reviewed the Staas and Rankin references and believe that the present claims patentably distinguish over the references taken either singly or in combination.

Staas

In particular, the Staas reference discloses a system for processing real time data using “computer data objects.” Although the Staas reference discusses object-

oriented programming at column 1, lines 22-39, the Staas system is **not** implemented using object-oriented programming as is the present invention. In particular, Staas discusses “objects” in the object-oriented programming sense at column 1, lines 31-34 - “... the basic programming entity used in such programming is an ‘object’ which contains both information and predetermined processes which are applied to the information.”

However, Staas does not actually use this type of “object” in implementing the real time data processing system. Instead, Staas uses a “computer data object” which consists of a portion of actual real time data which is stored and processed together with “control data.” The “computer data object” comprising the real time data and the control data is then processed by a conventional procedural program. The inventive concept in Staas is that the conventional procedural program is configured by the control data in order to process the real time data in a manner appropriate to the characteristics of that real time data. Thus, according to Staas, different types of real time data can be processed by the same procedural program simply by changing the control data to reconfigure the procedural program to correspond to the actual data characteristics (this type of operation assumes that the procedural program was originally written so that it could be reconfigured to operate with the particular real time data type.)

Staas is particularly clear in emphasizing that the “computer data objects” used in the real time data processing system are not the “objects” used in object-oriented programming. For example, Staas states at column 4, lines 24-32:

“The term “computer data object” is used to refer to the particular form of object-oriented computer processing which is used in the present invention. Note that the term ‘object-oriented programming’ is not used since the ‘computer data object’ is not used to produce a conventional computer program as in the prior art, but rather to control execution of a general-purpose computer program represented in FIG. 2B by the system operation module 32.”

Therefore the Staas objects do not include both data and logic for processing that data as in the present invention and the use of the Staas system would result in an implementation which is completely different from the implementation disclosed and claimed in the present invention.

Rankin

The Rankin article merely discusses general “pros” and “cons” of using object-oriented technology and indicates some areas with which object-oriented technology has been used by various telephone companies. Specifically, Rankin discusses issues such as how much it would cost to train programmers to use object oriented technology productively, whether the use of such technology will reduce time to market, whether it is worth the investment associated with the training and tools needed to apply the object oriented technology, or whether it is better to wait until the technology matures, or whether object-oriented technology will ever become an industry standard. Rankin also cites some instances where object-oriented “methodology” has been used. These latter instances include a switching system, a customer network administration system, a broadband network testing system and an experimental ATM network. In a sidebar on page 24, the Rankin article states, in a general discussion of object-oriented programming entitled “Designing Software”:

“For example, software programmers could create objects that represent a telephone, a telephone connection, or a telephone call - each with its own functional characteristics.”

However, there is no discussion or teaching of a method of implementing the objects or systems mentioned in the Rankin article. Since the Staas patent does not use objects of the type which are recited in the present claims and the Rankin article does not discuss implementation at all, the combination of the two references cannot do

more than suggest that an object-oriented “methodology” could be used to implement a telephone system.

The Staas patent and the Rankin article are in contrast to the present specification which discusses, in detail, “objects” which include both data and logic for representing not only telephony hardware, but also telephone connections and calls.

In particular, the present invention relates not only to the telephony objects, but also to the interactions of those objects in setting up and controlling telephone connections. Further detailed discussion is presented on interfacing the objects with a computer system to allow the computer system to control and monitor the telephone connection (see, for example, pages 16-19 of the present specification.) Specific objects, the data and the methods contained therein and their methods of interaction are disclosed in pages 19-56.

Claim 1 is patentably distinct over either of the cited references or their combination since the references neither describe nor suggest a telephony apparatus comprising a telephony element . . . a telephony object including logic for interfacing the telephony element to the processor and data for storing status information associated with the telephony element in the telephony object and representative of the telephony element under the control of the object oriented operating system . . . and means for controlling the telephony element by the object oriented operating system utilizing the logic in the telephony object to interface the telephony element to the processor by initiating a call connection, monitoring call progress, activating call features and storing status information in the data of the telephony object as recited in Applicant’s Claim 1.

In particular, neither reference discloses or suggests providing Applicant’s claimed means for controlling a telephony element by the object oriented operating system utilizing the logic and the telephony object to interface the telephony element to the

processor by initiating a call connection, monitoring call progress, activating call features and storing status information in the data of the telephony object.

Furthermore, assuming even *arguendo* that the telephony processes cited by the Examiner are well-known in the art, the mere existence of such telephony processes does not teach or suggest apparatus or a method for implementing a system for performing the processes. Applicant is not claiming the processes themselves, but rather apparatus and methods for implementing a computer system using “objects” which computer system performs the processes utilizing the claimed means for controlling a telephony element by an object-oriented operating system. The claims further recite that logic in the telephony object is used to interface a telephony element to the processor by initiating a call connection, monitoring call progress, activating call features and storing status information in the data of the telephony object.

The Examiner’s statement that “Rankin teaches the motivation for combining telephony processes with object oriented operating systems” is as far as the Rankin article goes - it merely suggests what **could** or **might** be done. Rankin supplies no motivation to one of ordinary skill in the art to provide the telephony object and means for controlling the telephony element by the object oriented operating system utilizing the logic and the telephony object as claimed by Applicants. If Rankin is combined with Staas, the resulting system is not “object-oriented” in the sense of the present invention since Staas is not object-oriented as discussed above. More specifically, the limitations recited in the claims do not read upon Staas since the Staas “computer data objects” do not include both data and logic as specifically recited in the present claims. A Staas system which is used to process telephony data would utilize a conventional procedural program which was configured to handle telephony data by means of control data in each of the “computer data objects.” Such a system would have none of the uniform interface benefits of the “object-oriented” system described in the present specification at page 3, lines 8-34.

Further, the Examiner asserts that Applicant's claimed telephony objects are obvious "as motivated by Ranking [sic] and since the state of the current art is to implement real time processes in an object oriented system." However, the cited references must make obvious Applicant's claimed invention at the time the invention was made. The current state of the art is irrelevant to a determination of obviousness. Thus, the Examiner has clearly and impermissibly used hindsight since he is considering the current state of the art rather than the state of the art at the time at which the invention was made.

The Examiner points out that the test for obviousness is not whether the features of one reference could be bodily incorporated into the other reference to produce the claimed subject matter, but simply what the reference makes obvious to one of ordinary skill in the art. Applicants agree that this is the test. However, in the above rejection, the Examiner has failed to cite a reference which discloses or suggests any implementation as set forth in Applicant's claims. Since neither of the references includes any of the features of Applicants claimed invention, this makes it impossible for the features of one reference to modified as suggested by the other reference to render Applicant's claimed invention obvious.

A fair reading of the cited references makes it abundantly clear that the references are lacking in any teaching which would lead one skilled in the art to provide Applicant's claimed objects and use the objects together as set forth in the claims. In the absence of such a teaching, Applicant submits that Claims 1-14 are patentably distinct over the cited references whether taken separately or in combination. The rejection of the claims under 35 U.S.C. §103 over Staas in view of Rankin is therefore respectfully traversed.

Accordingly, this case is in condition for allowance and advancement to issue and

such action is respectfully requested.

Entry of this amendment is also respectfully requested since it places this case in condition for allowance or in better form for appeal by materially reducing issues on appeal.

The Commissioner is hereby authorized to charge any other fees under 37 C.F.R. §1.16 and 1.17 that may be required, or credit any overpayment, to our Deposit Account No. 20-0065.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Keith Stephens', is written over a horizontal line.

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